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1. (Amended) A recombinant construct for expression of a protein which stimulates islet cell neogenesis [Islet Neogenesis Associated Protein or INGAP activity] comprising:

a first nucleotide sequence encoding amino acid[s] residues 27 to 175 as shown in SEQ ID NO: 6 operably linked to a transcriptional initiation site and a translational initiation site, wherein a second nucleotide sequence encoding a signal peptide is not present immediately 5' of said first nucleotide sequence.

Claims 2-5 (Original)

2. The construct of claim 1 wherein nucleotides 1–16 of SEQ ID NO: 1 are not present 5' of said first nucleotide sequence.

3. The construct of claim 1 further comprising a third nucleotide sequence encoding a histidine tag.

4. The construct of claim 3 wherein the third nucleotide sequence is immediately 5' or 3' to said first nucleotide sequence.

5. The construct of claim 1 wherein the transcriptional initiation site is inducible.

6. (Amended) The construct of claim 1 wherein the transcriptional initiation site is the lac promoter [/] and operator.

7. (Amended) The construct of claim 1 [further comprising a promoter sequence] ~~wherein the~~ transcriptional initiation site is capable of initiating constitutive transcription.

8. (Amended) The construct of claim 7 wherein the [promoter sequence] transcriptional initiation site is Rous sarcoma virus long terminal repeat (RSVLTR).

Claim 9 (Original)

9. The construct of claim 1 further comprising a nucleotide sequence encoding a nuclear antigen.

10. (Amended) The construct of claim 9 wherein the nuclear antigen is Epstein-Barr nuclear antigen-1 (EBNA-1).

Claims 11-12 (Original)

11. The construct of claim 1 further comprising an origin of replication.

12. The construct of claim 11 wherein the origin of replication is Epstein Bar Virus (EBV) origin of replication.

13. (Amended) A method of producing biologically active Islet Neogenesis Associated Protein or INGAP [protein] from a recombinant host cell comprising the steps of:

culturing a host cell comprising a recombinant construct comprising a first nucleotide sequence encoding amino acid[s] residues 27 to 175 as shown in SEQ ID NO: 6 operably linked to a transcriptional initiation site and a translational initiation site, wherein a second nucleotide sequence encoding a signal peptide is not present immediately 5' of said first nucleotide sequence, and

recovering protein from said cultured host cell.

14. (Amended) The method of claim 13 wherein the construct further comprises a third nucleotide sequence encoding a histidine tag, and INGAP [protein] is purified using a nickel affinity matrix.

15. (Twice Amended) A host cell comprising a recombinant construct comprising a first nucleotide sequence encoding amino acid[s] residues 27 to 175 as shown in SEQ ID NO: 6 operably linked to a transcriptional [iron] initiation site and a translational initiation site, wherein a second nucleotide sequence encoding a signal peptide is not present immediately [5+] 5' of said first nucleotide sequence.

16. (Amended) The construct of claim 1 wherein the first nucleotide sequence encoding amino acid[s] residues 27 to 175 comprises nucleotides 12-456 of SEQ ID NO: 4.

17. (Amended) The method of claim 13 wherein the first nucleotide sequence encoding amino acid[s] residues 27-175 comprises nucleotides 12-456 of SEQ ID NO: 4.

18. (Amended) the host cell of claim 15 wherein the first nucleotide sequence encoding amino acid[s] residues 27-175 comprises nucleotides 12-456 of SEQ ID NO: 4.

Claims 19-26 (Original)

19. The construct of claim 1 wherein the transcriptional initiation site is selected from the group consisting of: *λcI* promoter, *tac* promoter, *trp* promoter, and *tet* promoter.

20. The construct of claim 1 which comprises a nucleotide sequence as shown in SEQ ID NO: 4.

21. (Amended) A pair of oligonucleotide primers for amplifying a coding sequence consisting of nucleotides 12 to 456 of SEQ ID NO: 4, wherein each of said oligonucleotide primers hybridizes to an opposite strand of a double-stranded INGAP template under conditions sufficient for amplifying, wherein a first of said oligonucleotide primers hybridizes to the 5' end of the coding sequence for mature human INGAP and the second of said oligonucleotide primers hybridizes to the 3' end of the nucleotide sequence encoding mature human INGAP under conditions sufficient for amplifying nucleotides 12 to 456 of SEQ ID NO: 4.

22. The pair of oligonucleotide primers of claim 21 wherein one primer has the nucleotide sequence shown in SEQ ID NO: 2 and one primer has the nucleotide sequence shown in SEQ ID NO: 3.

23. (Amended) A method of making an expression construct for producing INGAP in a recombinant host cell, comprising the step of:

linking a transcription initiation site, a translation initiation site, and a coding sequence for mature human INGAP consisting of nucleotides 12 to 456 of SEQ ID NO: 4, to make an expression construct which is devoid of the signal sequence of the coding sequence of INGAP.

24. The method of claim 23 further comprising linking to said coding sequence for mature human INGAP a coding sequence for a histidine tag.

25. The method of claim 23 wherein the transcription initiation site is inducible.

26. The method of claim 25 wherein the transcription initiation site is selected from the group consisting of the *lac* promoter/operator, the *tac* promoter, the *trp* promoter, the *λcI* promoter, and the *tet* promoter.

27. (Amended) The method of claim 23 wherein the coding sequence for mature human INGAP is obtained by amplification of a coding sequence consisting of nucleotides 12 to 456 of SEQ ID NO: 4.

Claim 28 (Original)

28. The method of claim 27 wherein the amplification is performed using primers having sequences as shown in SEQ ID NO: 2 and SEQ ID NO: 3.

29. (Amended) A recombinant construct for expression of a protein which stimulates islet cell neogenesis, comprising:

a first nucleotide sequence encoding mature human INGAP consisting of nucleotides 12 to 456 of SEQ ID NO: 4, said first nucleotide sequence being operably linked to a transcriptional initiation site and a translational initiation site, wherein a second nucleotide sequence encoding a signal peptide according to SEQ ID NO: 5 is not present immediately 5' of said first nucleotide sequence.

Claims 30-37 (Original)

30. The construct of claim 29 wherein nucleotides 1-16 of SEQ ID NO: 1 are not present 5' of said first nucleotide sequence.

31. The construct of claim 29 further comprising a third nucleotide sequence encoding a histidine tag.

32. The construct of claim 29 wherein the third nucleotide sequence is immediately 5' or 3' to said first nucleotide sequence.

33. The construct of claim 29 wherein the transcriptional initiation site is inducible.

34. The construct of claim 33 wherein the transcriptional initiation site is the *lac* promoter/operator.

35. The construct of claim 29 wherein the transcriptional initiation site is capable of initiating constitutive transcription.

36. The construct of claim 35 wherein the promoter sequence is Rous sarcoma virus long terminal repeat (RSVLTR).

37. The construct of claim 29 further comprising a nucleotide sequence encoding a nuclear antigen.

38. (Amended) The construct of claim 37 wherein the nuclear antigen is Epstein-Barr nuclear antigen-1 (EBNA-1).

Claims 39-44 (Original)

39. The construct of claim 29 further comprising an origin of replication.

40. The construct of claim 39 wherein the origin of replication is Epstein Bar Virus (EBV) origin of replication.

41. The construct of claim 33 wherein the transcriptional initiation site is the λcI promoter/operator.

42. The construct of claim 33 wherein the

transcriptional initiation site is the *trp* promoter.

43. The construct of claim 33 wherein the transcriptional initiation site is the *tac* promoter.

44. The construct of claim 33 wherein the transcriptional initiation site is the *tet* promoter.

45. (Amended) A method of producing biologically active Islet Neogenesis Associated Protein (INGAP) from a recombinant host cell comprising the steps of:

culturing a host cell comprising a recombinant construct comprising a first nucleotide sequence encoding mature human INGAP consisting of nucleotides 12 to 456 of SEQ ID NO: 4 operably linked to a transcriptional initiation site and a translational initiation site, wherein a second nucleotide sequence encoding a signal peptide according to SEQ ID NO: 5 is not present immediately 5' of said first nucleotide sequence; and

recovering protein from said cultured host cell.

46. (Amended) The method of claim 45 wherein the construct further comprises a third nucleotide sequence encoding a histidine tag, and INGAP is purified using a nickel affinity matrix.

Claim 47 (Original)

47. A host cell comprising a recombinant construct comprising a first nucleotide sequence encoding mature human INGAP operably linked to a transcriptional initiation site and a translational initiation site, wherein a second nucleotide sequence encoding a signal peptide according to SEQ ID NO: 5 is not present immediately 5' of said first nucleotide sequence.

48. (Amended) The method of claim 23 wherein the coding sequence for mature human INGAP encodes amino acid residues 27 to 175 as shown in SEQ ID NO: 6.

49. (Amended) The pair of oligonucleotide primers of claim 21 wherein the first of said oligonucleotide primers comprises nucleotides 12 to 31 of SEQ ID NO: 2 and the second of said oligonucleotide primers comprises nucleotides 13 to 32 of SEQ ID NO: 3.